



DESIGNING, TESTING, AND DOCUMENTING BATTLEBOTS: EXPLORING ROBOTICS CREATIVITY AT SOUTHWESTERN

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PROJECT SUMMARY:

This project will design, build, and test four small-scale combat robots (“battlebots”) and document how Southwestern students respond to them. Combat robots provide a unique blend of engineering challenge and creative performance. We will construct four archetypes—lifterbot, horizontal spinner, wedge bot, and a 3D-printed lifter (“Kerfuffle bot”)—using off-the-shelf parts from Palm Beach Bots and ItGresa Robotics. To ensure safety, we will also build a small arena from wood and acrylic.

Once complete, we will test the robots against each other and record video footage of their performance. In addition, the social engagement aspect will consist of establishing a robotics club for Southwestern University where students can continue to design these bots and participate in battles with other universities’ robotics clubs. Furthermore, as these battle bots are built throughout our project, students at Southwestern will be able to help test the robots through battles and obstacle courses so that the designs can be assessed and improved. By combining engineering design with feedback on design improvement from students of any discipline, this project demonstrates the interdisciplinary potential of robotics.

The outcome will include four functioning robots, a safe testing arena, documentation of student responses on design improvement, and an established Southwestern University Robotics Club. Ultimately, the project aims to highlight how robotics can serve as both an innovative engineering challenge and a source of community engagement at Southwestern.
